

C-3045

### Abstract

A fuel cell power plant includes a plurality of fuel cell stacks which are operatively associated with each other so that both the air stream and fuel stream for the stacks are shared by each of the stacks in the power plant. The air and fuel streams are fed into an initial stack stage in the power plant, and after the air and fuel streams pass through the initial stack stage, the fuel exhaust streams are then fed into one or more subsequent stack stages in the power plant. The fuel streams are passed from the initial fuel cell stack stage to the subsequent fuel cell stack stage by means of a common manifold on which each of the fuel cell stacks in the power plant is mounted. The air streams are routed to all of the fuel cell stacks via a channel in the common manifold. Air exhaust from the fuel cell stacks is collected in an air exhaust channel in the manifold. The use of a single manifold greatly simplifies the fuel and air transfer plumbing which is necessary when one or more fuel cell stacks in a power plant are operated with air and fuel from other fuel cell stacks in the power plant. The manifold can be made by thermoforming the flow channels in a plastic sheet.